

Real Time Feedback



Real Time Biofeedback is a tool useful to :

- assess speech production, especially in case of dysarthria or hearing impair (formants of vowels produced are displayed in real time)
- help singers in training (spectrum is displayed in real time)

Principle

Practically, the subject pronounces vowels and can see in real time the result on screen.

The left window displays the FFT and LPC spectrum. 1st and 2nd formants are automatically detected.

Preparation

Equipment

Patient is standing up in front of the microphone.

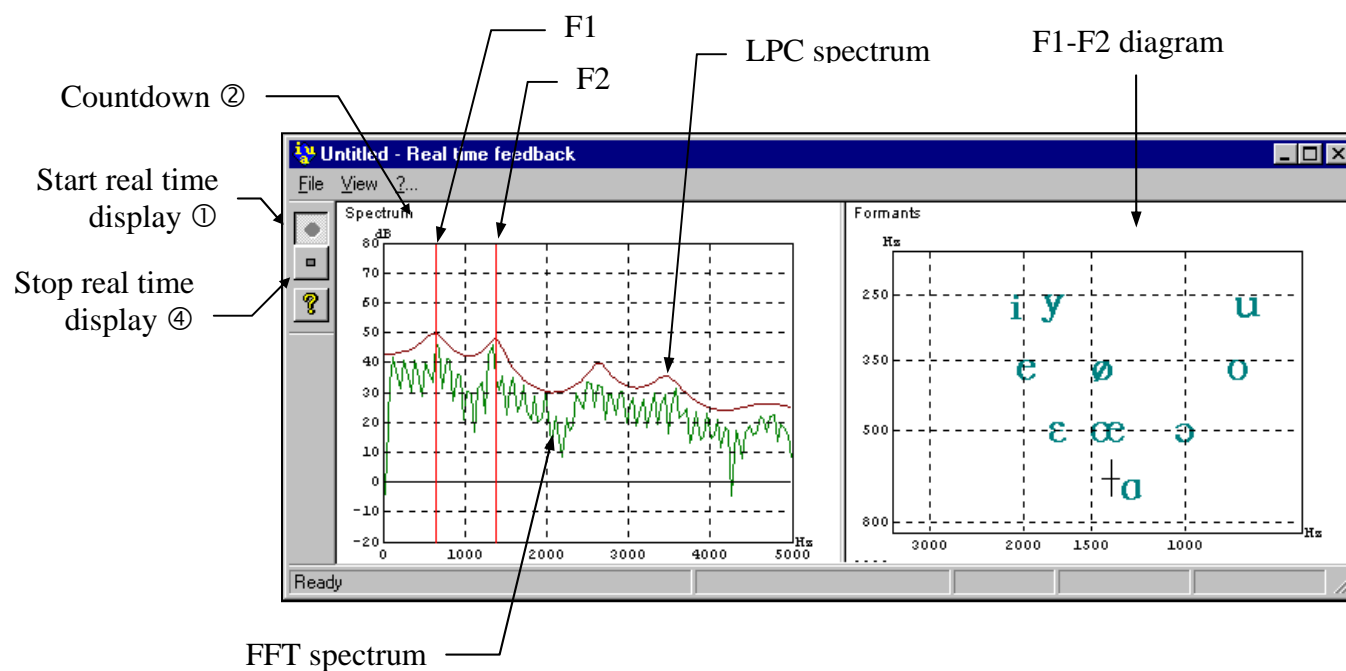
Software

Launch the SESANE software by clicking this icon in Windows task bar.



Double click on this icon :

Using Real Time Feedback



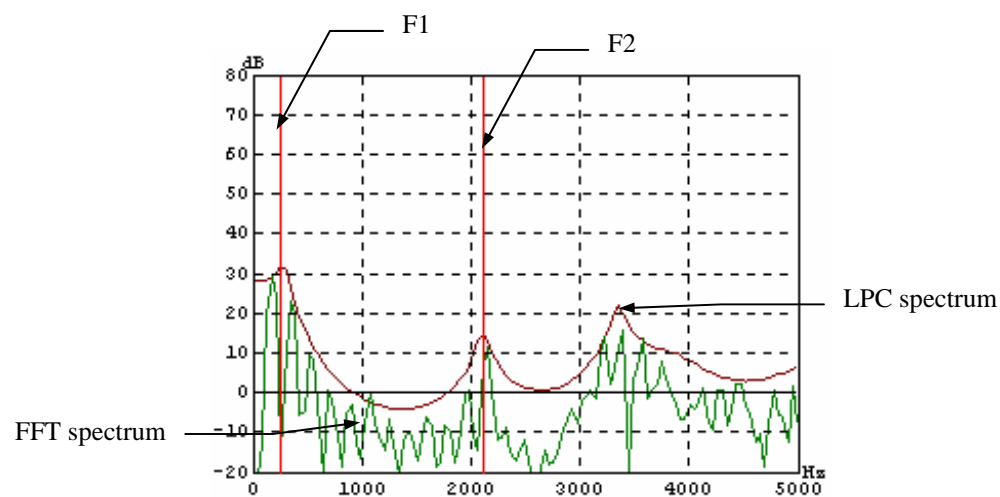
Protocol

- ① Start real time display
- ② **Wait 5 seconds before speaking**
(use the countdown in the spectrum
window title bar)
- ③ Speak
- ④ Stop the real time recorder

Measurement

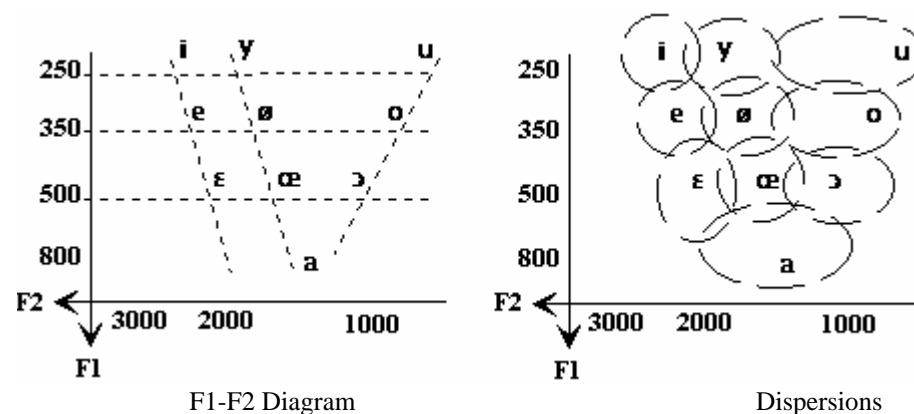
Spectrum Window

The left window displays the FFT and LPC spectrum. 1st and 2nd formants are automatically detected.

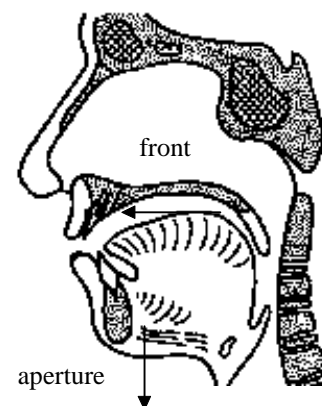


F1-F2 diagram

According to these values a target is displayed in the F1-F 2 diagram



The directions of F1 and F2 axis are chosen to be similar to a physiologic representation :



F1 ⇔ Aperture (jaws position)

The more the jaws are opened, the higher is F1.

F2 ⇔ Front position of tongue

The more the articulation is front, the higher is F2.

Lips also change F2 value (when lips are used for articulation, F2 decreases)

Data management

None.

Options

Available in next versions.